

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13523

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl' B21D 53/04, B21D 53/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl' B21D 53/04, B21D 53/06, B21D 53/08Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Japanese Utility Model Gazette 1926-1996, Japanese Publication of Unexamined Utility Model Applications 1971-2001, Japanese Registered Utility Model Gazette 1994-2001, Japanese Gazette Containing the Utility Model 1996-2001

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 5-177286 A (SHOWA ALUMINUM Corp.), 1993.07.20, whole document (Family: none)	1-14, 25
Y		26-28
A		20-24
Y	EP 704667 A2 (ZEXEL Corp.), 1996.04.03	26-28
A	lines 31-59, column 8, page 5, fig.16 and 17 & JP 7-227631 A, 1995.08.29, paragraph [0048]-[0053], fig.16 and 17 & US 5697433 A & US 5996633 A & KR 217515 B & DE 69514463 T	20-24
X	JP 10-132479 A (SANYO RADIATOR Corp.), 1998.05.22, paragraph [0003] and [0017]-[0020], fig.4 and 9, (Family: none)	1-14 28 20-24
A	EP 829316 A2 (DENSO Corp.), 1998.03.18 whole document & JP 10-85877 A, 1998.04.07, whole document & US 5875668 A & DE 69701076 T	15-19

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:
 "A" document defining the general state of the art which is not considered to be of particular relevance
 "E" earlier application or patent but published on or after the international filing date
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
 "O" document referring to an oral disclosure, use, exhibition or other means
 "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
 "&" document member of the same patent family

Date of the actual completion of the international search
04.12.03Date of mailing of the international search report
24.12.03Name and mailing address of the ISA/JP
Japan Patent Office
3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, JapanAuthorized officer
KAWAMURA Kenichi 
Telephone No. +81-3-3581-1101 Ext. 3363
3P 9625

INTERNATIONAL SEARCH REPORT

International Application No
PCT/FR 03/02917

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 016, no. 355 (P-1394), 30 July 1992 (1992-07-30) & JP 04 109166 A (JAPAN ORGANO CO LTD; OTHERS: 01), 10 April 1992 (1992-04-10) abstract -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/FR 03/02917

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 793792	A	23-04-1958	NONE	
US 3030192	A	17-04-1962	NONE	
US 3015544	A	02-01-1962	NONE	
JP 04109166	A	10-04-1992	NONE	